

FIG. 3

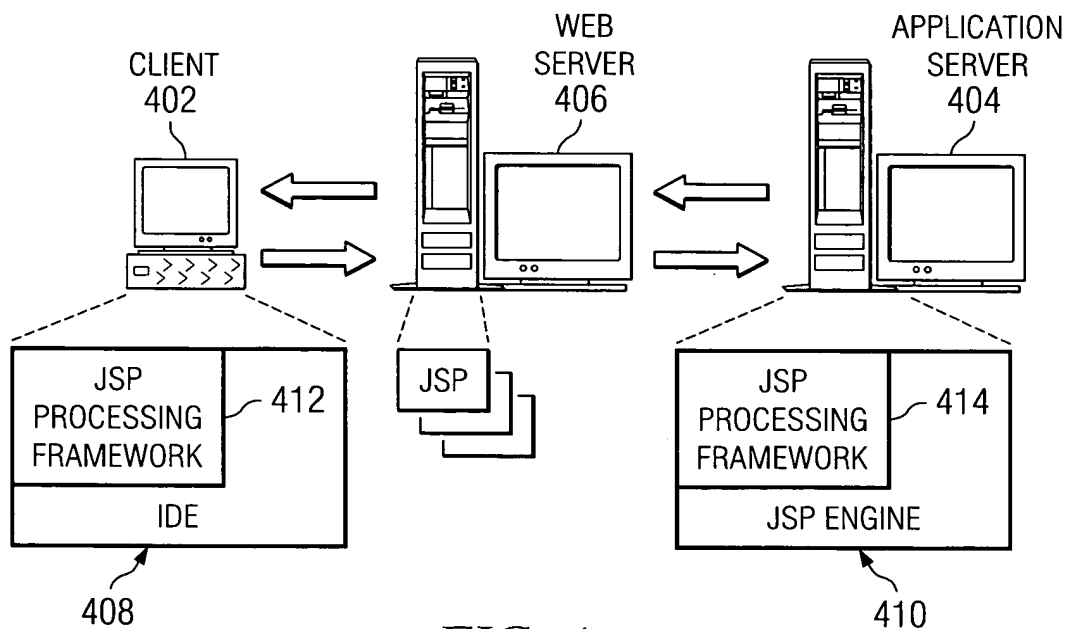


FIG. 4

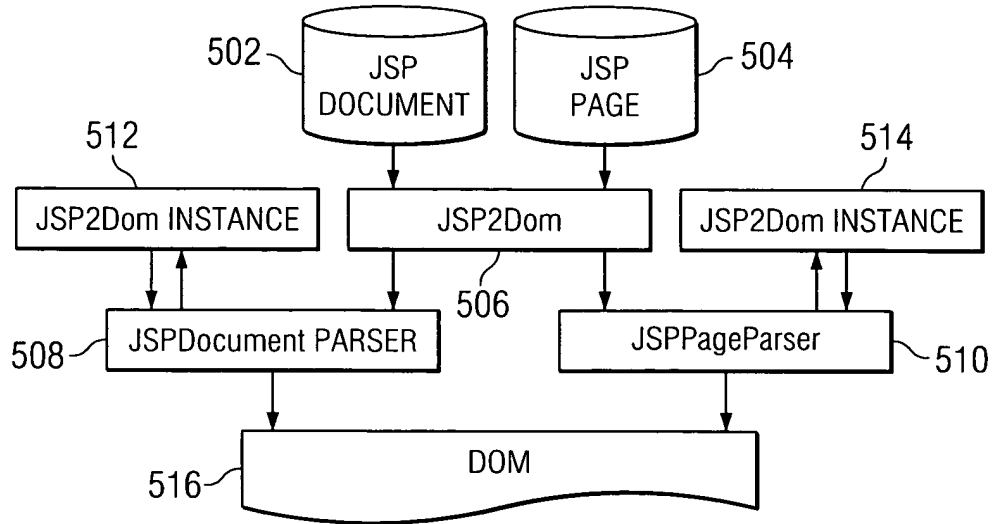


FIG. 5

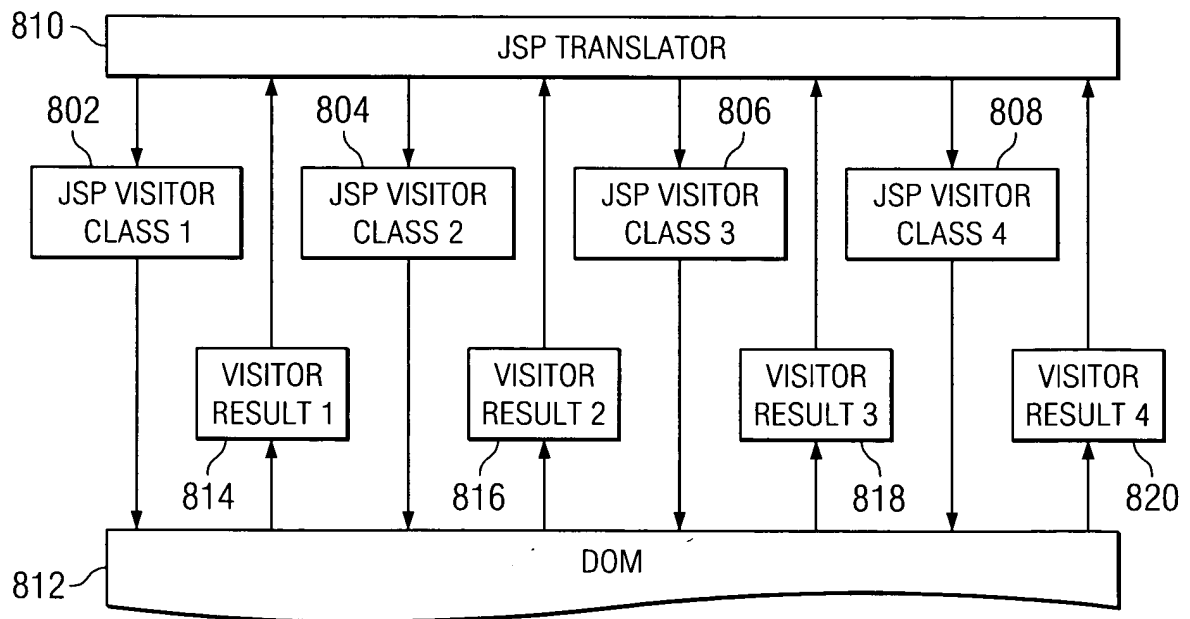


FIG. 8

```
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema">

  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Jsp Visitor Collection schema.
    </xsd:documentation>
  </xsd:annotation>

  <xsd:element name="jsp-visitor-configuration">
    <xsd:complexType>
      <xsd:sequence>
        <xsd:element ref="jsp-visitor-definition" minOccurs="0" maxOccurs="unbounded"/>
      </xsd:sequence>
      <xsd:sequence>
        <xsd:element ref="jsp-visitor-collection" minOccurs="0" maxOccurs="unbounded"/>
      </xsd:sequence>
    </xsd:complexType>
  </xsd:element>

  <xsd:element name="jsp-visitor-definition" type="jsp-visitor-definitionType"/>

  <xsd:complexType name="jsp-visitor-definitionType">
    <xsd:sequence>
      <xsd:element name="class-name" type="xsd:string"/>
      <xsd:element name="result-type" type="xsd:string"/>
    </xsd:sequence>
    <xsd:attribute name="id" type="xsd:string"/>
  </xsd:complexType>

  <xsd:element name="jsp-visitor-collection" type="jsp-visitor-collectionType"/>

  <xsd:complexType name="jsp-visitor-collectionType">
    <xsd:sequence>
      <xsd:element ref="jsp-visitor" minOccurs="0" maxOccurs="unbounded"/>
    </xsd:sequence>
    <xsd:attribute name="id" type="xsd:string"/>
  </xsd:complexType>

  <xsd:element name="jsp-visitor" type="jsp-visitorType"/>

  <xsd:complexType name="jsp-visitorType">
    <xsd:attribute name="id" type="xsd:string"/>
    <xsd:attribute name="order" type="xsd:int"/>
    <xsd:attribute name="visits" type="xsd:int"/>
  </xsd:complexType>
</xsd:schema>
```

FIG. 6

```

<?xml version="1.0" encoding="UTF-8"?>
<jsp-visitor-configuration xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.ibm.com/xml/ns/JspVisitorConfiguration.xsd">
  <jsp-visitor-definition id="JspValidate"> 704
    <class-name> com.ibm.ws.jsp.translator.visitor.validator.ValidateJspVisitor </class-name> 718
    <result-type> com.ibm.ws.jsp.translator.visitor.validator.ValidateJspResult </result-type> 720
  </jsp-visitor-definition>
  <jsp-visitor-definition id="JspGenerate"> 706
    <class-name> com.ibm.ws.jsp.translator.visitor.generator.GenerateJspVisitor </class-name>
    <result-type> com.ibm.ws.jsp.translator.visitor.generator.GenerateJspResult </result-type>
  </jsp-visitor-definition>
  <jsp-visitor-definition id="TagFileDependencyCheck"> 708
    <class-name> com.ibm.ws.jsp.translator.visitor.tagfiledep.TagFileDependencyVisitor </class-name>
    <result-type> com.ibm.ws.jsp.translator.visitor.tagfiledep.TagFileDependencyResult </result-type>
  </jsp-visitor-definition>
  <jsp-visitor-definition id="TagFileScan"> 710
    <class-name> com.ibm.ws.jsp.translator.visitor.tagfilescan.TagFileScanVisitor </class-name>
    <result-type> com.ibm.ws.jsp.translator.visitor.tagfilescan.TagFileScanResult </result-type>
  </jsp-visitor-definition>
  <jsp-visitor-definition id="TagFileValidate"> 712
    <class-name> com.ibm.ws.jsp.translator.visitor.validator.ValidateTagFileVisitor </class-name>
    <result-type> com.ibm.ws.jsp.translator.visitor.validator.ValidateTagFileResult </result-type>
  </jsp-visitor-definition>
  <jsp-visitor-definition id="TagFileGenerate"> 714
    <class-name> com.ibm.ws.jsp.translator.visitor.generator.GenerateTagFileVisitor </class-name>
    <result-type> com.ibm.ws.jsp.translator.visitor.generator.GenerateTagFileResult </result-type>
  </jsp-visitor-definition>
  <jsp-visitor-definition id="Smap"> 716
    <class-name> com.ibm.ws.jsp.translator.visitor.smap.SmapVisitor </class-name>
    <result-type> com.ibm.ws.jsp.translator.visitor.smap.SmapVisitorResult </result-type>
  </jsp-visitor-definition>
  <jsp-visitor-collection id="JspTranslation"> 722
    <jsp-visitor id="TagFileDependencyCheck" order="1" visits="1"/> 732
    <jsp-visitor id="JspValidate" order="2" visits="1"/> 734
    <jsp-visitor id="JspGenerate" order="3" visits="7"/> 736
  </jsp-visitor-collection>
  <jsp-visitor-collection id="DebugJspTranslation"> 724
    <jsp-visitor id="TagFileDependencyCheck" order="1" visits="1"/>
    <jsp-visitor id="JspValidate" order="2" visits="1"/>
    <jsp-visitor id="JspGenerate" order="3" visits="7"/>
    <jsp-visitor id="Smap" order="4" visits="1"/>
  </jsp-visitor-collection>
  <jsp-visitor-collection id="TagFileTranslation"> 726
    <jsp-visitor id="TagFileValidate" order="1" visits="1"/>
    <jsp-visitor id="TagFileGenerate" order="2" visits="7"/>
  </jsp-visitor-collection>
  <jsp-visitor-collection id="DebugTagFileTranslation"> 728
    <jsp-visitor id="TagFileValidate" order="1" visits="1"/>
    <jsp-visitor id="TagFileGenerate" order="2" visits="7"/>
    <jsp-visitor id="Smap" order="3" visits="1"/>
  </jsp-visitor-collection>
  <jsp-visitor-collection id="TagFileDependency"> 730
    <jsp-visitor id="TagFileDependencyCheck" order="1" visits="1"/>
  </jsp-visitor-collection>
</jsp-visitor-configuration>

```

702
JSP VISITOR
CONFIGURATION
FILE

FIG. 7

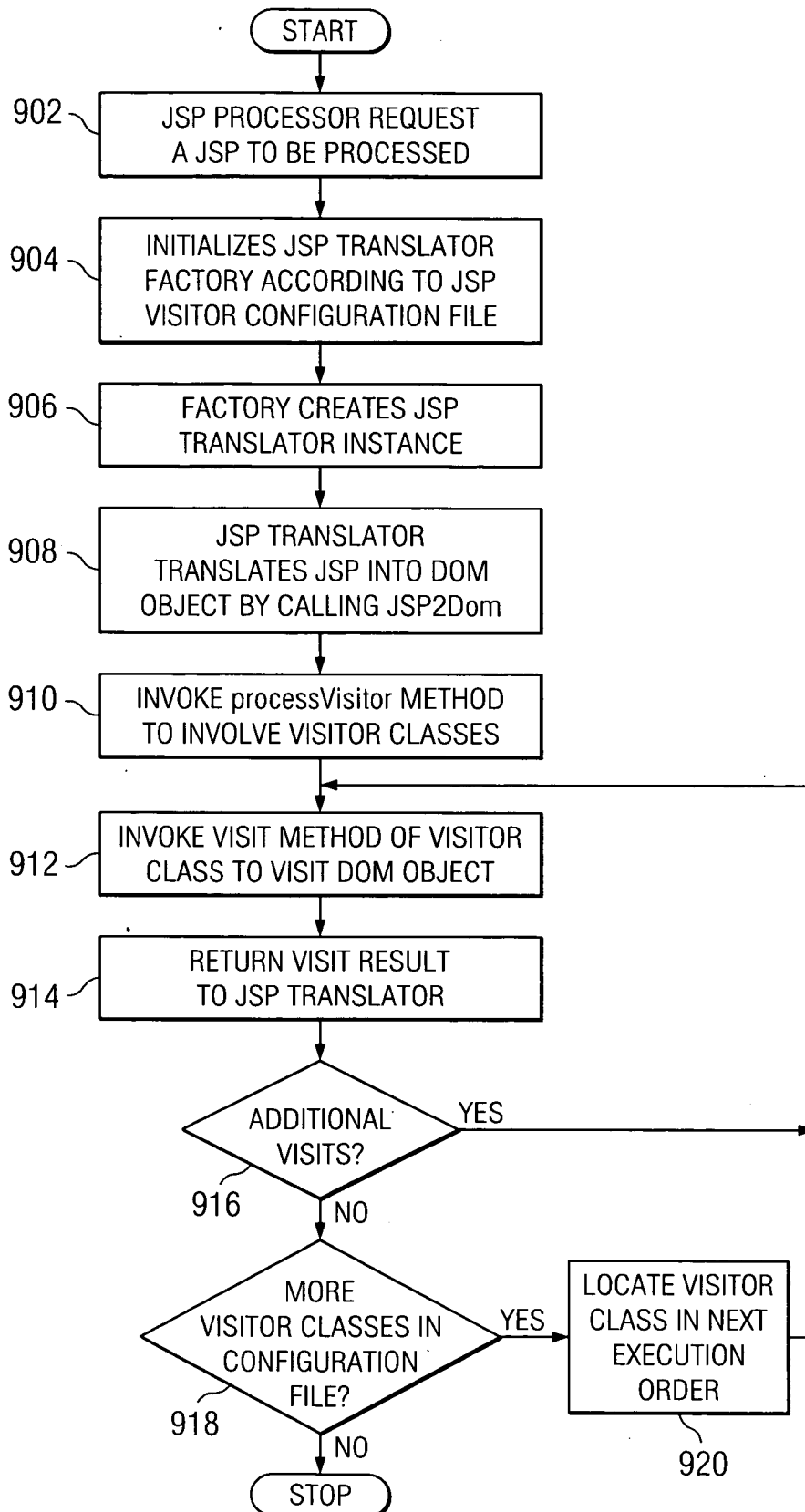


FIG. 9

ValidateJSPVisitor
PROGRAM
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1004

1006

```
protected void visitJspOutputStart (Element jspElement) throws JspCoreException {
    if (!jspConfiguration.isXml()) {
        throw new JspTranslationException(jspElement, "jsp.error.jspoutput.xml.only");
    }
    1008 ~ validateAttributes(jspElement, outputAttrNames); ~ 1010
    if (jspElement.hasChildNodes()) {
        throw new JspTranslationException(jspElement, "jsp.error.output.has.body");
    }
    Attr docTypeRootElement = jspElement.getAttributeNode("doctype-root-element");
    Attr docTypeSystem = jspElement.getAttributeNode("doctype-system");
    Attr docTypePublic = jspElement.getAttributeNode("doctype-public");

    1014 ~ if (docTypeSystem == null) {
        if (docTypeRootElement != null) {
            throw new JspTranslationException(jspElement, "jsp.error.no.doctype-system.attr");
        }
        1016 ~ if (docTypePublic != null) {
            throw new JspTranslationException(jspElement, "jsp.error.no.doctype-system.attr");
        }
        else {
            1012 ~ if (docTypeRootElement == null) {
                throw new JspTranslationException(jspElement, "jsp.error.no.doctype-root-element.attr");
            }
        }
    }
}
```

FIG. 10A

ValidateTagFileVisitor
PROGRAM
1020

```

    1022      protected void visitJspDoBodyStart (Element jspElement) throws JspCoreException {
1026      List specifiedStandardActionAttrs = getAttributeList(jspElement);
1030      validateAttributes(specifiedStandardActionAttrs, jspElement, doBodyAttrNames); 1028
      validateEmptyBody(jspElement);
      Attr varAttr = jspElement.getAttributeNode("var");
      Attr varReaderAttr = jspElement.getAttributeNode("varReader");
      if (varAttr != null && varReaderAttr != null) {
          throw new JspTranslationException(jspElement, "jsp.error.TagFile.dobody.var_varreader");
      }

      if (jspElement.hasAttribute("scope")) {
          if (jspElement.hasAttribute("var") == false &&
              jspElement.hasAttribute("varReader") == false) {
              throw new JspTranslationException(jspElement,
                  "jsp.error.tagfile.dobody.scope_var_varreader");
          }
      }

1032      Attr scopeAttr = jspElement.getAttributeNode("scope");

      if (scopeAttr != null) {
          boolean valid = false;

1034      if (scopeAttr.getValue().equals("page")) {
          valid = true;
      }

1036      else if (scopeAttr.getValue().equals("request")) {
          valid = true;
      }

1038      else if (scopeAttr.getValue().equals("session")) {
          valid = true;
      }

1040      else if (scopeAttr.getValue().equals("application")) {
          valid = true;
      }

      if (valid == false) {
          throw new JspTranslationException(jspElement, "jsp.error.tagfile.dobody.scope_invalid");
      }
  }
}
```

FIG. 10B

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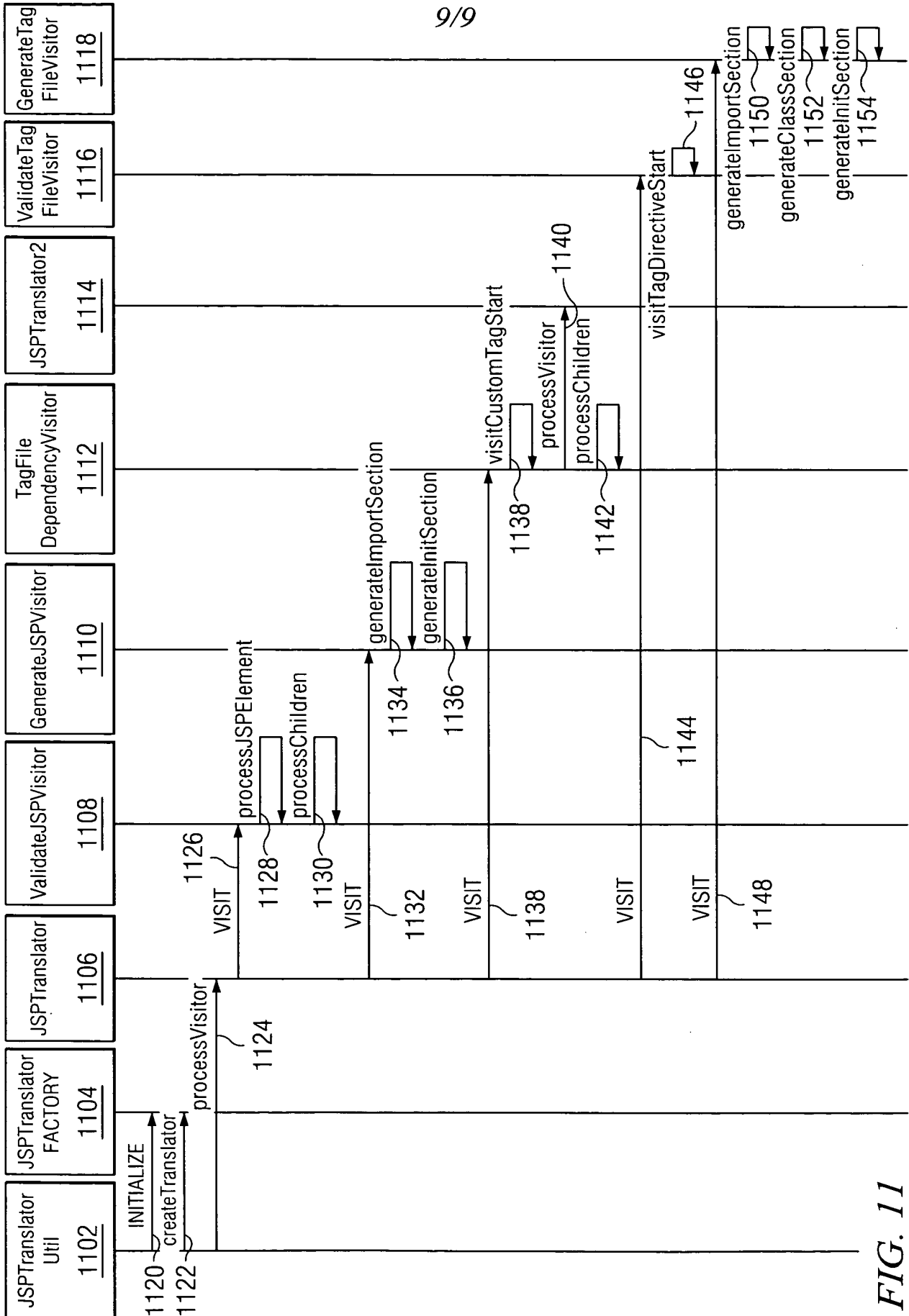


FIG. 11